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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,781	11/20/2000	Zhi-Zhong Liang	6900-255 MIS	4138

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EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 04/22/2003

cf

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-9

<b>Office Action Summary</b>	Application No. 09/622,781	Applicant(s) LIANG, ZHI-ZHONG	
	Examiner Daniel S. Metzmaier	Art Unit 1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 9-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 16-31 is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

Claims 1-7 and 9-31 are pending in the instant application. Claim 8 has been canceled and claims 1-2, 4-5, 7, 11-12, 14-15 and 18 have been amended by the amendment filed February 11, 2003, Paper No. 8.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is unclear where in the originally filed specification that applicant provides basis for the concentrations as now claimed. Claims 14 and 15 are directly or indirectly dependant on claim 7 directed to the methods of producing lignin dispersed in lubricating oil. To the extent "the final composition refers to the lignin dispersed in lubricating oil, it is unclear where applicant provides basis therefore in the original specification. It is unclear that the examples clearly show said range since it is unclear whether the black liquor referred to in the claim is in dewatered form or as an aqueous colloidal dispersion.

To the extent "the final composition refers to the lignin dispersed in lubricating oil and bitumin, it is unclear where applicant provides basis therefore in the original specification.

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3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9-11 and 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9-11 are indefinite because said claims are dependent on canceled claim

8. It is unclear what applicants intends as the scope of said claims.

The concentrations of claims 14 and 15 are rendered indefinite because it is unclear what is intended by "the final composition. It is further unclear whether said concentrations are the concentrations prior to the "converting step", which includes "dewatering" as evidenced in original claim 8, or after "the converting step". Dewatering would be expected to materially change the alkaline and the lignin content and the active concentrations set forth in claims 14 and 15 when compared to the added concentrations of the "spent pulping liquor".

Claim 11 is indefinite because it is unclear what applicants intend as the structure of "linear alkyl fatty acid sulfonate". It is unclear whether applicants intend a sulfonated fatty acid or a fatty alkyl sulfonate, e.g., no carboxylic acid group.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Pounder Emulsions Ltd. Canada (hereafter Pounder Emulsions), CA 1,163,758. Pounder Emulsions (abstract examples and claims; particularly example 6) discloses compositions and methods reading on the instant application.

Applicant characterizes the lubricating oil set forth in the claims (page 5, lines 15-28) as re-refined waste motor oil or refined mineral oil having a consistency from thin liquid to grease-like substances. Pounder Emulsions (example 6) discloses the use of No. 2 fuel oil, which is diesel oil and reads on applicant's characterization of lubricating oil.

The claims employ the transition language "comprising" and "consisting essentially of", which is open to other ingredients and/or steps in the methods. The specification does not disclose the degree that the "dewatered lignin-containing spent alkaline pulping liquor" is dewatered. Said limitation reads on the Kraft soap skimmings disclosed in the Pounder Emulsions reference. Said skimmings are characterized as including black liquor solids. The resin and fatty acids and fatty acid linear alkyl sulfonates present are inherently the (anionic) surfactants claimed in claims 9 and 10. The claims included in this rejection do not exclude the presence of the bitumen in claims 7-11 and 13-14.

To the extent the claims are limited to "consisting essentially of", absent a specific definition of what said limitation excludes, applicant has the burden of showing the further materials of the prior art would materially affect the claimed compositions.

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Furthermore, applicant employs anionic sulfonate surfactants. Sulfonate surfactants are known emulsifiers.

***Allowable Subject Matter***

7. Claims 12 and 16-31 are allowed. It is noted that claim 12 differs from claim 16 in defining the spent pulping liquor as "alkaline" and the term "blending" rather than "mixing".

8. The following is a statement of reasons for the indication of allowable subject matter: the methods employing a two step process of dehydrating or dewatering the lignin-containing alkaline pulping liquor in a lubricating oil to produce an anhydrous dispersion followed by blending said lubricating oil dispersion with bitumen is not disclosed or fairly suggested in the prior art. The claims defining "anhydrous colloidal dispersion of lignin in a lubricating oil" implicitly or inherently define dehydrating or dewatering the aqueous colloidal dispersion of lignin.

***Response to Arguments***

9. Applicant's arguments filed Feb. 11, 2003 have been fully considered but they are not persuasive.

10. Applicant (page 5) notes claims 14 and 15 have been amended to obviate the rejection thereof under 35 USC 112, second paragraph. Please see above new rejections to said claims.

11. Applicant (page 5) asserts claim 11 has been amended to refer to linear alkyl fatty acid sulfonate. Applicant should provide basis in the specification therefore and/or

why said change is an obvious error and what said compounds are intended to represent.

12. Applicant (page 6) asserts the Pounder Emulsions reference lacks a teaching of dewatering spent alkaline pulping liquor. To the extent applicant argues that the kraft soap skimmings are not spent alkaline pulping liquor, Pounder Emulsions (page 4, lines 10 et seq) teaches kraft soap skimmings are also known as sulfate black liquor skimmings and (page 5, lines 10-15) said skimmings contain about 10 % by weight of black liquor solids with soap skimmings in about 35% by weight water. Applicants do not qualify and/or define the scope of spent alkaline pulping liquor and the materials disclosed in the Pounder Emulsions reference read thereon.

To the extent applicant argues the Pounder Emulsions reference lacks dewatering, Pounder Emulsions (page 5, lines 17-23; and examples) specifically teaches dewatering.

13. Applicant (pages 6 and 7) assert claim 7 is directed to converting the lignin and lubricating oil to a cream-like paste compatible with bitumen. The emulsion gel defined in the Pounder Emulsions, Ltd reference (example 6) contain bitumen and are therefore compatible therewith. Said emulsions are characterized as a gel, which is indistinct from applicant's characterization of the cream-like paste. Furthermore, applicants claim is open by the use of the transitional language "comprising" and does not define converting.

***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



**Daniel S. Metzmaier**  
**Primary Examiner**  
**Art Unit 1712**

DSM  
April 21, 2003